providing a plurality of components for attachment to the rear face of said substrate, each said component having a face presenting an array of contacts, said components including at least one active optical component selected from the group consisting of a light emitter and light receiver;

forming a plurality of arrays of contacts on the rear face of said transparent substrate at precisely defined locations corresponding to an intended location of the contacts of each component;

forming arrays of positioning pads on said rear face of said transparent substrate at precisely defined locations relative to said plurality of arrays of contacts;

providing a guide frame for locating the external light guide and having guide frame pads precisely matching said arrays of positioning pads;

attaching said guide frame to said rear face of said substrate in a precise location determined by said positioning pads by soldering said guide frame pads to said arrays of positioning pads and floating said guide frame into place on molten solder; and

flip-chip bonding said components onto said substrate in precisely predetermined locations determined by said arrays of contacts by floating said components into said precisely determined locations on molten solder; and

wherein said at least one optical component is oriented so that it can be optically coupled through said substrate to the external light guide.

5. (Amended) A method as claimed in claim 1, wherein said positioning pads comprise solder bumps for use in the solder alignment of said guide frame to said substrate.

6. (Amended) A method as claimed in claim 1, wherein said positioning pads are arranged in opposed pairs extending on either side of a line.

7. (Amended) A method as claimed in claim 1, wherein said arrays of contacts on said substrate comprise solder bumps for use in the solder alignment of said components to said substrate.

12. (Amended) A method as claimed in claim 1, wherein said guide frame is made of nickel.

16. (Amended) A method of making an active optical device for coupling to optical fibers, comprising the steps of:

providing a transparent substrate having a front face and a rear face;

providing a plurality of active components for attachment to the rear face of said substrate, each said active component having face presenting an array of contacts, said components including at least one optical component selected from the group consisting of a light emitter and light receiver;

forming a plurality of arrays of solder bumps on the rear face of said transparent substrate at precisely defined locations corresponding to an intended location of the contacts of each component;

providing a guide frame having at least one array of shaped pads;

forming at least one array of solder pads on the rear face of said substrate at precise locations for locating a guide frame, said solder pads being matched to said shaped pads of said guide frame;

flip-chip bonding said components onto the rear face of said substrate using a solder alignment technique to attach said components to said substrate in precisely predetermined locations determined by said arrays of solder bumps;

said at least one optical component being oriented so that it can be optically coupled through said transparent substrate to an external light guide on the front face thereof; and

bonding said guide frame to said substrate using a solder alignment technique to locate said guide frame in a precise position by aligning said shaped pads with said solder pads, said guide frame including indicia marking the location of guide pins for said external light guide.

24. (New) A method of making an active optical device for coupling to an external light guide, comprising the steps of:

providing a substrate with a light path therethrough and having a front face and a rear face;

providing a plurality of components for attachment to the rear face of said substrate, each said component having a face presenting an array of contacts, said components including at least one active optical component selected from the group consisting of a light emitter and light receiver;

forming a plurality of arrays of contacts on the rear face of said transparent substrate at precisely defined locations corresponding to an intended location of the contacts of each component;

flip-chip bonding said components onto said substrate using a solder alignment technique to attach said components to said substrate in precisely predetermined locations determined by said arrays of contacts, said at least one optical component being oriented so that it can be optically coupled through said substrate to the external light guide;

bonding a heat sink on said substrate over said components and said guide frame, said heat sink including on a front side thereof facing the rear face of said substrate protruding guide

pins for aligning said substrate with said external light guide, said guide pins being aligned with the aid of said guide frame; and

wherein said guide frame contains holes located to permit said guide pins to pass through, said holes being located in wing portions of said guide frame extending beyond side edges of said substrate.